

Hollins and her colleague who did a sterling job of guiding us all.



Laura Hollins is the outreach and events manager and gave a very interesting, if slightly scientifically amazing, presentation of the facility and why it had been constructed. Her description of it being a 'super microscope' using extremely bright and intense light just sounded like science fiction to me, and yet there will be up to 40 'research stations' placed around the accelerator with people from all over the world doing experiments. She explained the size of things at the atomic scale they are able to study such as an atom - that's about 1 angstrom wide or 0.1 of a billionth of a metre! A human hair is about 100,000 nanometres. The uses for the Diamond Light machine are almost limitless with research into engineering, such as Rolls Royce jet engines, biology, environmental science, geology, etc. Unlike the CERN project, which is smashing high density particles together, Diamond accelerates electrons to a very high energy in a similar way using magnets but then loses energy in a very specific way to produce light. This light is then focused on matter to study the properties and structure.

In the days of the old cathode ray tube TV's, we all had a particle accelerator but it was used to fluoresce the screen to produce a picture. Diamond uses the same method, but much bigger, to produce the

electrons and then accelerates them using radio and voltage frequency and magnets to steer and focus the beam. The electrons are accelerated up to speed and then stored in the large, 562 metre in circumference, ring until required. When an experimenter requires the beam it is split off tangentially into one of the experimental stations set around the circumference.

With the group divided into two we set off to view this huge facility with explanations of everything from the way the building was constructed, and known to be level, to seeing an experiment in progress run by a Swedish group.

An amazing piece of engineering and we must thank our guides for being such good hosts. Pete even offered them a flight later in the year on the 'bold eagles' event.

#### **Places to go & things to do**

26<sup>th</sup> March - GASCo Ditching & Sea Survival course, RNLI Lifeboat College.

27<sup>th</sup> March - VAC Spring Rally, Turweston

13<sup>th</sup> April - LAA Oxford Branch meeting

30<sup>th</sup> April - Skittles & Steaks, Red Lion, Islip

11<sup>th</sup> May - Paul Fowler, Oxford Sqn Spitfires

14<sup>th</sup> May - Branch Fly-in, Enstone

TBA June - Dinner, Oxford Greyhound Track

5<sup>th</sup> June - Bold Eagles, Hinton in Hedges

8<sup>th</sup> June - Rob Millinship, flying stories

18<sup>th</sup> June - LAA Party in the Park, Old Warden

13<sup>th</sup> July - LAA Oxford Branch BBQ

10<sup>th</sup> August - Irv Lee, Fly-on-Track

2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> September - LAA Rally, Sywell

11<sup>th</sup> Sept - Narrow Boat Jolly, See D Brooks

18<sup>th</sup> September - Turweston Wings & Wheels

#### **Committee**

Chairman - Pete Smoothy  
Vice Chairman - Rob Stobo  
Secretary - Barbara Rose  
Barbara.Rose1@hotmail.co.uk  
Treasurer - David Brooks  
Evening Events - John Bean  
Social Events - Colin Hughes  
Safety Officer, NC Rep, Newsletter editor  
& web moderator - John Broad  
[john.broad85@talktalk.net](mailto:john.broad85@talktalk.net)

Meetings are held on the 2nd Wednesday of each month at the Foxcombe Lodge Hotel, Boars Hill, Oxford, OX1 5DP. Tel: 01865 326326; [www.foxcombelodge.com](http://www.foxcombelodge.com)  
LAA Oxford Branch website: [www.laaoxford.co.uk](http://www.laaoxford.co.uk); LAA [www.lightaircraftassociation.co.uk](http://www.lightaircraftassociation.co.uk)



Light Aircraft Association

#### **February 2011 meeting**

AIRBOX by William Moore and Tom Hedges.

Tom introduced himself as the expert on video gaming, an expertise whose importance became very apparent as the talk progressed. William is the engineer & pilot of the team and flies a YAK 18A.



The Company "AIRBOX" was started in 2007 by three people, Tom, William and Dave Clark; Dave having previously set up the 'Road Angel' company for automotive GPS. This meant that he could bring his extensive knowledge of GPS to the new company and he has a great interest in aviation. William explained that he looks after the software and hardware development while Tom looks after the publicity. They were joined last year by Steve Gubbins, who used to work for Garmin, to look after sales in Europe and Internationally. Their philosophy is safety, innovation and support for the customers. All the software is written in house, none is subcontracted. Although centred on GA they do supply the emergency services such as the Air Ambulance and Police helicopters with equipment. There are currently 3 products, the Aware, Clarity and Foresight available.

They were among the first to use touch screen technology to make the input of data and routes both faster and intuitive and use the highest quality hardware to provide the brightest screen available. GPS units designed for use in the USA do not emphasise airspace boundaries very well

# Oxford Branch

## Newsletter for March 2011

as around 60% of US pilots have IRs and their airspace is less congested than the UK. William needed any GPS units to be suitable for his kind of flying and that meant having the CAA Charts as the base as these are what most GA pilots used for training and flying. This means pilots spend less time looking at the navigation system and more time looking out of the cockpit. The hard work carried out by the engineers in assimilating masses of data but then presenting this to the pilot in the simplest and quickest way will improve safety. They are currently working with NATS on the next stage of introducing a flight planning system with graphical NOTAMs, terrain and CAS to produce a PLOG for every trip (this will be called PREPARE).

It is no good having all this data available but having difficulties in accessing it; this is where Tom's video gaming expertise has been very useful in questioning why the access is so complicated whilst recommending better ways to do it; video gamers wouldn't put up with it so why should pilots!. AIRBOX are very keen to hear comments from pilots using their equipment, both good and bad, and consider it important for people to be able to contact the factory directly.

AWARE - NATS and the responsibility to prevent a collision between a GA aircraft and a commercial aircraft prompted the collaboration. With all the congested airspace in the UK,



problems of pilots infringing these and the lack of proper planning, something was needed to help. Discussions between NATS and AIRBOX suggested the low cost device that became the AWARE GPS, complete with free updates of the airspace and

using the standard CAA charts. By giving a clear visual and audible warning 5 minutes before entering CAS and a plain English readout of your position, pilots equipped with the device shouldn't infringe CAS. By paying a little more, the device can be updated to a complete GPS with all the planning capabilities. Although figures seem to vary on how the device has reduced infringements, there is a pronounced reduction.

In answering a couple of questions; there may be an 'App' in the future for iphones and ipads. With regard to altitude warnings, be aware that the AWARE unit has a buffer of 500 feet plus your altimeter may not be that accurate.

Our thanks must go to Tom and William for their excellent presentation and for their invite to the factory in Wantage.

### **RIN/NATS/AWARE CONTROLLER FORUM**

Four club members Pete Smoothy, Rob Stobo, Mike Boys and I, had the opportunity to join twenty other pilots at the RIN/NATS/AWARE/CONTROLLER forum, held by NATS at London Air Traffic Control Centre (LATCC) Swanwick.

Swanwick being the main air traffic control centre for the UK, the chance of a visit to this facility was too good to miss.

The day started with an introduction by Jonathan Smith (NATS Infringement Leader).

Jonathan is also a GA pilot flying a Piper Cub from Halton.

This forum was the first of their Infringement / Avoidance awareness days.

NATS had realised that whatever structure they put "in house" to stop infringement, they needed to talk with the General Aviation community. In the main (VFR) pilots are the ones who infringe, Jonathan pointed out that most of these are pilots going for a jolly in the local area, who knew the area so well, they didn't need a flight log!!!!!!!!!!!!

NATS joined with AIRBOX to see what could be done, to help us to help ourselves, and came up with AWARE (we have one in the club, if you want to try it)

this is a moving map, that alerts you to possible infringements, five or so miles on your present track.

Jonathan showed us a map and graph of these infringements, not very good reading. He then played a radar trace for one of them. A Boeing 737 descending into Stansted and a light aircraft which had infringed as they never saw each other, one above a layer of cloud the other just below. You can imagine the repercussions for us, if they came together, the controller had also made mistakes, which NATS have rectified within their training.

What came over within his presentation, is we all need to work together to minimise infringements. They understand people will become unsure of their position, if so give a controller a call, tell them your situation, your reception will be sympathetic and helpful and not punishment.

We then had a couple of talks from the Royal Institute for Navigation.

The first was on the benefits and pitfalls of GPS navigation; and where future developments are leading. The next was on basic map reading techniques.

Then it was onto the "SHOP FLOOR", where we were told not to interrupt them, unless spoken to. I think it was said "DON'T FEED THE ANIMALS"!!

Seated around a large room are the controllers and all their radar screens. They control both upper level en-route traffic across England and Wales over to the Irish FIR boundary, and up to the Scottish border, and low-level traffic around London and south east, including aircraft making approaches to the main London airports, along with those run by BAA. It also has contracts with other non-BAA airports including, Gatwick, Luton, Manchester, Birmingham. On all flights leaving or returning, Swanwick will be in control from just after take-off until just before landing.

Next we were taken to the Flight Information Service (FIS) area where the two staff work without radar screens but could help us with any flight information that we require. During our visit they were very quiet because the weather outside was S\*%!, so not much VFR traffic. One question asked

of them was what should we do, e.g. on a sunny day, when the radio is very/very busy and we want to sign off but can't get in. Their reply was that they would appreciate if you could really try to make contact. Registration and going on route would be fine.

Next port of call was Distress & Diver-sion; the RAF looks after this area. They have access to all the radars used by controllers in the rest of the building and in addition are able to use triangulation to fix your position on their mapping screen to assist in any way possible, for a safe outcome. They are more than happy for us to call with a PRACTISE PAN. Do not try a practise pan if you are in difficulties. If a real PAN comes in, they will cancel your call.

What came over very loudly from all the areas that we visited was - Give us a CALL; we are there to HELP, and by helping YOU, we HELP OURSELVES.

I would like to thank everyone involved with this forum and hope they have many more. It was not only informative but also educational.

**Spread the word,  
reduce infringements.**

*Article by Colin Hughes*

### **Online Logbook**

How many people are still completing their pilot logbooks by hand in the old format? Many I suspect, including myself until last year. My log book was the usual kind of thing with rub outs and changes, etc, often difficult to see at a glance how many hours were training, PIC, Night, IMC or instrument.

I visited the Aero Expo at Wycombe in 2010 and crossed paths with John Cooper who has been developing an online log-book for pilots. I was mildly interested and so spent a few minutes chatting. However, I quickly saw how convenient this might be and so for a small fee £20 per year decided to purchase.

Initially, it looked a bit difficult as I was so used to completing my normal paper log book. After about half an hour or so of playing around with inputting aeroplane types and logging some pretend flights I

got the hang of it. Next job then, was to decide shall I convert all my old data into this electronic form or just start using it from now. In the end I bit the bullet and went the whole hog. It has to be said this was a big task as my flying career started with micro lights and we did not tend to record flight times. John was fantastic and helped me enormously with this bit and ensuring all the data was accurate. He helped over and above the call of duty.

I now have a fully functioning electronic logbook which I can access from anywhere including my iphone. I can produce instant print outs should I need it for a signature for instance. I can back up my logbook anytime. I can see at a glance which planes and how many hours on each of these planes I have flown (useful for SEP and SSEA) I get a reminder when any medicals or renewals are coming up and I know all this information is safe and secure as well my having my own back up.

So to sum up:

- \* Easy to examine areas of information and print out as needed
  - \* Access anywhere, so no need to carry your log book.
  - \* Safe and secure data storage
  - \* Help and support when required
  - \* Ability to back up your data
  - \* Log book is "yours" and Online logbook will release an export of it should you not wish to continue using it
  - \* Ongoing development which should future proof and bring new devices
- Contact: [john@onlinelogbook.co.uk](mailto:john@onlinelogbook.co.uk)  
Web [www.onlinelogbook.co.uk](http://www.onlinelogbook.co.uk)

*Article by Kelston Chorley G-GBRV (RV9)*

### **Visit to Diamond Light**

Thanks to Dick Tolley's son, a branch visit was made to the fascinating particle accelerator up at Chiltern / Harwell Science Campus on the evening of the 10<sup>th</sup> February. Arrival and booking in proved effortless for those who followed the instructions, and we were met by Laura